

The Economic Future of Europe

Olivier Blanchard

After three years of near stagnation, the mood in Europe is definitely gloomy. The two economics books on the bestseller's list in France in 2003 were called *La France qui tombe* (*The fall of France*) (Baverez, 2003) and *Le desarroi Francais* (*The French disarray*) (Duhamel, 2003). Both books offer the vision of a France falling behind, and offer little hope for the future. Governments are trying to put on a good face, but their boasts, such as the goal adopted at the European Union conference in Lisbon in March 2000 to make the EU "the world's most dynamic and competitive economy within ten years" are seen as largely empty and pathetic.

The most articulate diagnoses argue that the European model worked well for postwar Europe, but that it no longer fits the times. For much of the postwar period, the argument goes, Europe practiced "catch-up growth," based on imitation rather than innovation. For such growth, large firms, protected in goods and financial markets, could do a good job. They could do most of their R&D in house. They could develop long-term relations with suppliers of funds. They could offer job security to their workers. The rents generated in the goods markets could be shared between firms, workers and the state and help finance the welfare state. But now that European growth must increasingly be based on innovation, now that firms cannot be insulated from foreign competition, the European model has become dysfunctional. Economic and social relations between firms and suppliers of funds, between firms and their workers, must all be redefined. So far, the argument concludes, Europe has not risen to the challenge. Instead, it seems petrified, unable to engage in fundamental reforms. These themes are well-

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articulated in a recent and influential report to the European Commission, known as the Sapir Report (2004).

In this paper, I want to offer a more optimistic assessment.¹ Looking at the past, the performance of Europe is substantially better than is typically perceived. Over the last 30 years, productivity growth has been much faster in Europe than in the United States. Productivity levels are roughly similar today in the European Union and in the United States. The main difference is that Europe has used some of the increase in productivity to increase leisure rather than income, while the United States has done the opposite.

Still, not everything is well. Unemployment is high in many countries, and Europe clearly suffers from inefficient regulation in goods, financial and labor markets. Here also, however, there is more action than is typically perceived. A wide-ranging economic reform process is taking place in Europe. This process is driven by reforms in financial and product markets, which in turn are creating pressure for reform in the labor market. Reform in the labor market is slowly taking place, but not without political tensions. These tensions have dominated and will continue to dominate the news; but they are a symptom of change, not a reflection of immobility.

Some Facts

Two facts are often cited by Euro-pessimists: GDP per capita in the European Union, measured at purchasing power parity (PPP) prices, stands at only 70 percent of GDP per capita in the United States. Moreover, this ratio is roughly the same as 30 years ago.

These facts suggest a Europe stuck at a substantially lower standard of living than the United States and unable to catch up. This interpretation would be misleading however, and Table 1 shows why. Table 1 gives GDP per capita, GDP per hour worked and hours worked per capita both for the EU-15 (the 15 countries that composed the European Union before the May 2004 extension to 25 countries) and for France, for 1970 and 2000, as ratios to the United States. The reasons for singling out France are threefold: It is useful to present the results for a particular country, not just broad European averages; France is often perceived as a poster child for European malaise; last, but not least, I know France better than the other countries.

The first two columns of Table 1 show the evolution of GDP per capita relative to the United States and confirm the two facts presented earlier. The gap between the EU-15 and the United States has remained roughly constant; the gap between France and the United States has even increased a little. The next two columns

¹ Other recent assessments of the European performance, sharing some of the themes of this article and ranging from the mildly pessimistic to the mildly optimistic include in-depth studies by de la Dehesa (2004) and Baily (2004) and shorter essays by Turner (2003) and Faini (2004).

Table 1

PPP GDP Per Capita, PPP GDP Per Hour Worked and Hours Worked Per Capita, 1970 and 2000, United States, EU-15 and France

	<i>GDP per capita</i>		<i>GDP per hour worked</i>		<i>Hours worked per capita</i>	
	1970	2000	1970	2000	1970	2000
United States	100	100	100	100	100	100
EU-15	69	70	65	91	101	77
France	75	71	69	100	109	71

Notes: All U.S. values normalized to 100, for both 1970 and 2000.

Sources: EU-15: Sapir report, based on European Union Ameco database. France: OECD Economic Outlook database.

show, however, that labor productivity, measured as GDP per hour worked, has increased much faster in Europe than in the United States. Relative EU-15 productivity, which stood at 65 percent of the United States in 1970, now stands at roughly 90 percent. French labor productivity now equals U.S. labor productivity. The last two columns, which give hours worked per capita (total hours worked divided by total population) offer the key to understanding this combination of a stable gap in GDP per capita and converging productivity. As relative EU-15 labor productivity has increased, relative hours worked per capita have decreased in roughly the same proportion, leading to a roughly constant relative GDP per capita. In other words, had relative hours worked remained the same, the EU would have roughly the same standard of living as the United States.

Describing the same underlying facts in terms of absolute rather than relative evolutions is quite striking: In the United States over the period 1970 to 2000, GDP per hour increased by 43 percent and hours per capita increased by 21 percent, so GDP per capita increased by 64 percent. In France over the same period, GDP per hour increased by 80 percent. But hours per capita decreased by 21 percent, so GDP per capita only increased by 59 percent. In that light, the economic performance of France, and the performance of the European Union in general, do not look so bad: a much higher rate of growth of productivity than the United States, with part of that increase allocated to increased income and part to increased leisure.

Is this way of stating the facts too polemical? Is labor productivity correctly measured? Can the decrease in hours worked really be interpreted as an increase in leisure? What about the recent past, where U.S. productivity growth appears to have increased relative to Europe? These questions require a closer look at the facts.

Productivity

There are at least two issues of interpretation with the productivity numbers presented above. The minimum wage is typically higher in Europe than in the

United States. To the extent that the presence of a minimum wage prevents the employment of the lowest productivity workers, the average productivity of those employed will be higher. In comparing labor productivity across countries, we may want to control for this effect. One rough way to do so, if we want to compare the United States and France, for example, is to use the information from the U.S. wage distribution to fill the French wage distribution between the relative French minimum wage and the (lower) U.S. relative minimum wage, and compute the resulting adjustment to average productivity. Such a computation was made in a comparison of productivity in France, Germany and the United States by McKinsey (McKinsey Global Institute, 1997; updated McKinsey Global Institute, 2002); this computation gives a downward adjustment for French labor productivity of about 6 percent.

The second issue is that labor productivity reflects not only the state of technology, but the capital-labor ratio chosen by firms. Increases in the cost of labor lead firms to decrease labor relative to capital, leading to an increase in labor productivity. The capital-output ratio appears to be higher in Europe than in the United States; for example, the ratio is 30 percent higher in France than in the United States. The natural solution to this problem is to compare total factor productivity rather than labor productivity. A back-of-the-envelope computation suggests that starting from equal labor productivities, adjusting for the difference in capital-output ratios implies a level of French total factor productivity roughly 10 percent lower than that of the United States.²

In summary, the two adjustments lead to a more modest assessment of European productivity relative to U.S. productivity. But the levels of European and U.S. productivity remain close.

Hours Worked

Should we interpret the large decrease in hours worked per capita in Europe as the result of preferences leading to the choice of leisure over income as productivity increased? Or should we interpret it instead as the result of increasing distortions, such as higher taxes on work, an increase in the minimum wage, forced early retirement programs and so on?

Another way of asking the same basic question is the following: When comparing welfare rather than just income per capita, what shadow price should we use to weigh leisure? Should we use the wage, in which case the measure of welfare is roughly similar in Europe than in the United States, or should we use a much lower shadow price, in which case Europe remains substantially behind?

² The computation is as follows. Start with the standard expression for the Solow residual: $\Delta \ln A = \Delta \ln Y - \alpha \Delta \ln N - (1 - \alpha) \Delta \ln K$, where Δ here refers to the difference between the two countries, rather the change in time. Rewrite it as thus: $\Delta \ln A = \alpha (\Delta \ln Y - \Delta \ln N) + (1 - \alpha) (\Delta \ln Y - \Delta \ln K)$. If labor productivity is the same in both countries, and the share of capital $1 - \alpha$ is equal to 0.33, then a 30 percent difference in the capital output ratio leads to a 10 percent difference in total factor productivity levels.

Table 2

A Decomposition of the Change in Hours Worked Per Capita in France and the United States from 1970 to 2000*(percentage)*

	Percentage change in:				
	HN/P	H	N/L	L/P_A	P_A/P
France	-21	-21	-7	3	4
United States	21	-4	1	10	14
Difference	-42	-17	-8	-7	-10

Source: OECD Economic Outlook database.

To address these questions, it is useful to decompose the change in hours worked per capita into its different components:

$$\Delta(HN/P) = \Delta \ln H + \Delta \ln (N/L) + \Delta \ln (L/P_A) + \Delta \ln (P_A/P).$$

The change in hours worked per capita, HN/P , can be written as the change in hours worked per worker, H , plus the change in the employment rate—the ratio of employment, N , to the labor force, L —plus the change in the participation rate—the ratio of the labor force L to the population of working age, P_A , plus the change in the ratio of the population of working age to total population, P . The decomposition of the change in hours worked into these components is given in Table 2 for France and the United States, for the period 1970 to 2000.

Looking at the first line, one sees that the decrease in hours worked per capita in France is fully accounted for by the decrease in hours worked per worker (21 percent in both cases). True, unemployment has increased from 2 percent in 1970 to 9 percent in 2000, and this is reflected in the 7 percent decrease in the employment rate. But at the same time, participation has increased by 3 percent, and the ratio of working age population to total population has increased by 4 percent, offsetting the effects of the decrease in the employment rate.

This accounting decomposition may however be partly misleading. Ideally, we would like to compare these evolutions to what they would have been absent distortions—whatever these are. This is clearly difficult, but a comparison with the United States may be of some relevance. For this reason, the next two lines of the table give the corresponding numbers for the United States and then the difference between France and the United States.

The first conclusion is that differences in demographic evolutions, captured in the last column, play an important role: The ratio of the population of working age to total population has increased substantially more in the United States than in France. If we leave these demographic evolutions aside, and focus on the evolution of hours worked per person of working age—a decrease of 25 percent for France,

an increase of 7 percent for the United States—the second conclusion is that more than half of the difference between the two countries is explained by the difference in the evolution of hours per worker. In short, the different evolutions in hours per worker (rather than, say, the different evolutions of the unemployment rates) are the main factor between the different evolutions of hours per capita between France and the United States.

Focusing now on the decrease in hours worked per worker, the next question is whether this reflects a reduction in hours worked by full-time workers or an increase in the proportion of workers working part-time. Over a period of 30 years, the first is likely to reflect voluntary choices of workers, while the evidence on part-time work suggests that it is more likely to be involuntary. (In France in 2000, 20 percent of part-time workers said it was because they could not find full-time jobs. The corresponding number for the United States was 8 percent.) The decomposition varies across European countries. For France, most of the reduction in hours reflects a decrease in the hours of full-time wage earners, from an average of 45.9 hours a week in 1970 to 39.5 hours in 1999—a 15.0 percent decrease. I stop in 1999 to exclude the effects of the two “35-hour” laws passed in 1998, mandating a reduction of the workweek to 35 hours by 2000 for firms with more than 20 employees, and in 2000, mandating a similar reduction by 2002 for public sector employees and for firms with fewer than 20 employees. These two laws have led to a further and large decline in hours worked. The latest available number, for 2001, puts the average workweek at 38.3 hours, a 18 percent decline since 1970. Whether the shift to 35 hours should be seen as “voluntary” is a matter of debate. The promise to pass such a law was politically popular and was probably the main factor behind the victory of the Socialist government in 1997. Whether voters actually understood the income/leisure tradeoff is now hotly debated.

The French numbers are not outliers. The European country with the lowest number of hours worked per year per worker is Germany, with 1,450 hours compared with France’s 1,550.

Even if we take the decision by full-time workers to work fewer hours to be voluntary, this still does not tell us whether the change is due to preferences (steady income growth and a strong income effect, leading to an increased demand for leisure) or to distortions (increasing taxes faced by workers, leading them to choose more leisure). Marginal tax rates (constructed by adding taxes on marginal income, payroll and consumption) have increased by about 10–15 percent for most EU countries, compared with about 8 percent in the United States (Journard, 2001). How much of the decrease in hours can be attributed to these increases in tax rates depends very much on the assumptions one makes about utility and the strength of income and substitution effects. Prescott (2003) attributes all of Europe’s decrease in hours worked to the increase in taxes. However, his computation assumes a very large elasticity of labor supply. And within Europe, the cross-country relation between the decrease in hours and the increase in tax rates is weak. A revealing example here is that of Ireland. Average hours worked per worker in Ireland have decreased from 2,140 in 1970 to 1,670 in 2000, a 25 percent decrease over the period, and hours worked by full-time

workers in manufacturing (the only series available on hours by full-time workers for the period at hand) have decreased in line with the European average. This decline can clearly not be blamed on a depressed labor market: Ireland has boomed during the period and has seen major in-migration and an increase in participation rates, and unemployment is now very low. Nor can it be blamed on an increase in tax rates. The increase in the average tax rate has been small, about 3 percent compared with the 8 percent increase in the United States. Turning to more formal evidence, econometric estimates based on panel data evidence typically find a significant, but modest role for taxes in explaining the decline in hours per capita; Nickell (2003a) offers a recent survey and discussion. These estimates imply that the evolution of tax rates may explain about a third of the decrease in hours per worker in Europe over the period.

In summary, a large part of the decrease in hours per capita over the last 30 years in Europe reflects a decrease in hours worked per full-time worker, a choice that is likely to be made voluntarily by workers. The remaining issue is how much of this change comes from preferences and increasing income and how much comes from increasing tax distortions. I read the evidence as suggesting an effect of taxes, but with the larger role left for preferences.

Evolutions Since the Mid-1990s

Looking at productivity growth since 1970, or at productivity levels today, may not tell the whole story. Indeed, part of the Euro-pessimism is based on evolutions since the mid-1990s and the feeling that the United States is again gaining advantage on Europe. The basic numbers are given in Table 3, based on the work of van Ark, Melka, Mulder, Timmer and Ypma (2002). The table gives numbers for total factor productivity growth for the United States, the EU-15 and France for the 1980s, for the 1990s as a whole and for each half-decade of the 1990s.

The table yields three main conclusions. In the 1980s, European total factor productivity growth was higher than in the United States. In the 1990s, it was roughly the same as in the United States. But this was the result of a first half-decade with Europe growing faster than the United States and a second half-decade with the United States growing faster than Europe.

Reaching conclusions about trend changes in total factor productivity growth based on just five years of data is a dangerous exercise.³ Cyclical factors and measurement issues may well dominate any trend change over a short period. But U.S. and EU productivity rates in the early 2000s have looked very much like the second half the 1990s, and most observers now believe that we have indeed seen a change in relative trends, starting around 1995.

The nature and the origins of the change have been the subject of a large amount of recent work. Some have emphasized the role of information technologies, both in the sectors producing and using information technologies. Some have

³ The standard deviation of annual total factor productivity growth is roughly equal to 1.5 percent. Assuming no correlation between the two growth rates, this implies that the difference between five-year average growth rates in Europe and in the United States has a standard deviation of $1.5 \times (\sqrt{2/5}) = .94$.

Table 3

Total Factor Productivity Growth, United States, European Union and France, 1980–2000*(percentage per year)*

	1980s	1990s	1990–1995	1995–2000
United States	0.91	1.06	0.74	1.39
EU-15	1.45	1.04	1.36	0.72
France	1.90	0.68	0.89	0.38

Source: van Ark (2002a), Tables 19 and A7.

emphasized instead differences between evolutions in manufacturing and services. For these reasons, Table 4 presents labor productivity growth rates for each half-decade of the 1990s, for the United States and the European Union (I leave France out, so as not to clutter the table), distinguishing between sectors that produce, use or do not use information technology, and also between manufacturing and services. The table is based on the work of van Ark, Inklaar and McGuckin (2002), which pays careful attention to problems of comparability across countries, using in particular harmonized price deflators for information technology (since the construction of national price deflators for information technology varies widely across countries and makes direct comparisons of national income account figures unreliable).

Take the hypothesis that the slowdown in productivity growth in Europe since 1995 reflects primarily a slowdown in productivity growth in manufacturing (for example, Daveri, 2003). Table 4 shows that EU manufacturing productivity growth outside the production of information technology has indeed declined (this decline is present in all EU countries, except for the Netherlands). But it has declined to a rate that is still higher than the United States. This outcome is more suggestive of the end of catch-up growth than of any emerging European inability to innovate in manufacturing.

Take the hypothesis that Europe has missed the information technology revolution, in the sense that production of information technology has been more limited in Europe. Table 4 shows that the share of the information technology producing sector in GDP is smaller in the European Union than in the United States, 5.9 percent versus 7.3 percent. But the difference is small, and the EU average hides differences across countries. In a number of countries, in particular Ireland and Finland, the information technology producing sector accounts for more than 10 percent of GDP.

Finally, take the hypothesis that the problem of Europe has been in the insufficient use—rather than in the production—of information technology. It is a fact, documented for example by Colecchia and Schreyer (2002), that investment in information technology was higher in the United States than in Europe in the 1990s. But with the benefit of hindsight, it is clear that some of this investment was

Table 4

Labor Productivity Growth by Sector, United States and Europe, 1990–2000*(percentage per year)*

	<i>Share</i>		<i>Annual rate</i>			
			<i>United States</i>		<i>European Union</i>	
	<i>U.S.</i>	<i>EU</i>	<i>1990–1995</i>	<i>1995–2000</i>	<i>1990–1995</i>	<i>1995–2000</i>
Aggregate			1.1	2.5	1.9	1.4
IT producing						
manufacturing	2.6	1.6	15.1	23.7	11.1	13.8
services	4.7	4.3	3.1	1.8	4.4	6.5
IT using						
manufacturing	4.3	5.9	−0.3	1.2	3.1	2.1
services	26.0	21.1	1.9	5.4	1.1	1.4
Non IT using						
manufacturing	9.3	11.9	3.0	1.4	3.8	1.5
services	43.0	44.7	−0.4	0.4	0.6	0.2

Source: van Ark (2002b), Tables 5 and 6.

Notes: “Share” is the share of the sector in GDP, in 2000, in percent. “IT-using” and “non IT-using”: defined using the U.S. ratio of IT capital services to capital services in 2000, defining all sectors above the median as “IT-using” and all sectors below the median as “non IT-using.”

excessive, contributing perhaps little to productivity. One way to proceed here is to look directly at outcomes, to look at whether productivity growth in the information technology using sectors was higher in the United States than in Europe. Table 4 shows that in the second half of the 1990s, labor productivity growth in the information technology using service sector was indeed much higher in the United States than in the European Union: 5.4 versus 1.4 percent. This finding is quantitatively important, because this sector accounts for about one-fourth of GDP: Had Europe had the same productivity growth rate in this sector as the United States in the second half of the 1990s, overall productivity growth would have been roughly the same in Europe and the United States.

Looking more closely within the information technology using service sector, van Ark, Inklaar and McGuckin (2002) find that the difference between the United States and Europe is in turn attributable mainly to three subsectors: retail trade, wholesale trade and securities. Productivity growth in this third sector seems largely attributable to transactions associated with the U.S. bubble economy of the late 1990s. Thus, it appears that slower productivity growth in retail and wholesale trade are two of the main factors behind the difference between U.S. and EU productivity growth in the late 1990s, a conclusion shared by a number of other studies (McKinsey Global Institute, 2001, for the United States; McKinsey Global Institute, 2002, for a comparison of the United States, France and Germany).

Are the problems of the trade sector symptomatic of more general problems throughout European economies? Do they portend sustained differences in

productivity growth between the United States and Europe in the future? My answer is “probably not.” But to develop it, I must first turn to regulation and reforms in financial and product markets.

Reforms in the Financial and Product Markets

The last 15 years have seen dramatic changes in goods and financial markets in Europe. Most of these changes can be traced to a reform process in which “Brussels” (this is the way Europeans refer to the European Commission, located in the city of Brussels, Belgium) has played a central role, forcing (or allowing?) national governments to implement reforms they would probably not have implemented on their own.

The Role of Brussels

In 1985, the European Commission issued a “white paper,” articulating a plan for achieving a fully integrated European internal market by 1992 (Commission of the European Communities, 1985). The report offered a timetable to achieve the elimination of physical barriers, of fiscal barriers and of technical barriers—the different standards for individual products in place in different countries. Realizing that harmonization of rules and regulation would be difficult, the report argued for using, whenever possible, the more wide-ranging principle of “mutual recognition”: “If a product is lawfully manufactured and marketed in one Member state, there is no reason why it should not be sold freely throughout the community.”

By 1992, most of the agenda set out in 1985 was achieved, and, in a step with heavy symbolic significance to Europe’s nation-states, border controls for goods were eliminated. (Financial market integration took longer, but has accelerated with the adoption of the euro. The current plan is to have a fully integrated financial market by 2005.) The process of reform continued, however, through the implementation of competition policy. Today, competition policy and fights between the current commissioner, Mario Monti, and national governments often make the news.

European competition policy comes into play when trade between member states is affected. In practice, this gives a very broad scope for Brussels to intervene. European competition policy covers four areas, in which the Commission either can act alone or shares its powers with national competition authorities and law courts. They are as follows:⁴

1. *The Elimination of Anticompetition Agreements or Abuse of Dominant Position.* The European Commission can prohibit an agreement and even impose fines up to 10 percent of the world turnover of the relevant parties. Recent interventions include, for example, a ruling against British Airways in its relations with travel

⁴ For further description, see European Commission (2000). For a description of reforms over time, see the annual reports from the European Commission—for example, European Commission (2002).

agents and a ruling against the use by the Belgian's Architect association of a minimum fee scale.

2. *The Liberalization of Monopolistic Sectors.* It was, for example, a 1996 European Commission directive that led to the opening up of the mobile telecommunication services market to competition. The commission also checks that member states, when granting exclusive rights, comply with European Union competition rules. In 1997, for example, the Commission ruled that Spain had given an unfair advantage to the state company in the mobile phone market, and it forced the company to pay back the state an amount equal to the implicit subsidy.

3. *The Control of Mergers Between Firms.* Mergers for firms with a turnover in excess of 250 million euros require prior notification to the European Commission, and the Commission has exclusive power to approve or prohibit a given merger. In 2003, for example, the Commission rejected a merger that would have led the French firm Lagardere to dominate the book distribution network in France; the terms of the merger had to be modified so as to maintain competition in book distribution.

4. *The Monitoring of State Aid.* In 2003, for example, the European Commission rejected a plan by the French government to rescue the French firm Alstom, provoking widespread criticism in France. The plan was not approved by Brussels until it was modified. Some politically hot sectors, such as agriculture, or coal, or fisheries, are excluded. But in general, the rules about government restructuring or rescue plans are tough: They can only take the form of short-term loans, at the normal commercial rate, and can only be granted once.

These powers are considerable, and the European Commission has not hesitated to wield them. This raises two intriguing questions. The first is why this part of the Commission has been so willing to reform and deregulate when other parts of the Commission showed much less commitment to markets.⁵ The second is why governments have been willing to leave such power in the hands of the Commission. One hypothesis is that this happened partly by accident, that Brussels was able to use its mandate as defined in the Treaty in a way that national governments had not anticipated. But this hypothesis is belied by the fact that governments have, at various times, increased the powers of the Commission in matters of competition policy. For example, rules on state aid to airline companies were tightened in 1994, and general rules on rescue plans were tightened in 1999. This pattern suggests an alternative hypothesis: that governments have willingly delegated those powers to Brussels, in order to achieve reforms, while being able to shift the blame to Brussels. This point is important. As I shall argue later, product and market deregulation put strong pressures on labor market institutions, raising the risk of reversal. The fact that Brussels is leading the process, rather than national governments, decreases this risk.

Does this argument mean that all the reforms of product and financial markets

⁵ This is one of the issues taken up in the article by Alesina and Perotti in this issue of the journal.

have come from Brussels? Obviously not, and an important exception is privatization. There, however, progress has often been slower, more subject to political ebbs and flows, and therefore more country specific. The example of France is again revealing here. Under a socialist government, and bucking a general world trend, France was the last rich country to nationalize a number of banks and firms in the early 1980s. The trend then changed in the late 1980s with a first wave of privatization under a Gaullist government in 1986–1988 and then more steady privatization since 1993, under both left and right governments. Despite this new commitment, the share of nationalized firms in the business sector remains higher in France than in other European countries.

Measuring the Changes in Regulation

Until recently, little formal evidence existed on how far deregulation (or, more accurately, better regulation) had progressed in Europe. Two OECD projects have now partially filled the gap. The first and more ambitious project attempts a precise characterization of regulation circa 1998; it is based on the answers from national governments to a questionnaire assessing the state of 1,300 regulatory provisions (Nicoletti, Scarpetta and Boylaud, 2000). The second project is more limited in scope, but has both a time series and a cross-country dimension; it gives the evolution of regulation in seven sectors from 1975 to 1998 (Nicoletti and Scarpetta, 2003). Table 5 is based on the results of this second study and gives a sense of the evolutions over time, for the United States and three European countries, for two synthetic indexes, the first called “barriers to entrepreneurship,” the second “public ownership.” Each index ranges from 0, representing no barriers or no public ownership, to 6.

Table 5 shows that Europe remains more regulated than the United States. But it also shows that regulation has steadily decreased in Europe over time, especially in the 1990s, confirming the informal evidence presented earlier.

Assessing Structural Changes

The changes in economic regulation have transformed European goods and financial markets. For example, prices of products or classes of products have shown steady price convergence across countries throughout the 1990s (European Commission, 2002, Annex 1). With the introduction of the euro, exchange rate risk for euro members has disappeared. Within the euro zone, money market rates are now identical, and bank lending rates have largely converged (European Commission, 2004). The structure of financial relations has changed, with less reliance on close relations with a few banks and more reliance on raising capital in broad markets. For example, the proportion of bank loans in the firms’ financial liabilities, based on a sample of large firms, has come down from 74 percent in 1990 to 32 percent in 2002 in Germany and from 75 to 53 percent in Italy (Danthine, Giavazzi and von Thadden, 2000).

The best way to get a sense of the changes that have taken place is to look at specific sectors. Here, we can rely on a number of studies, in particular two studies

Table 5

Indexes of Regulation: United States, France, Germany, the Netherlands, 1975–1998

	<i>Barriers to entry</i>			<i>Public ownership</i>		
	1975	1990	1998	1975	1990	1998
United States	5.5	2.4	1.5	1.7	1.5	1.5
France	6.0	5.1	3.3	6.0	5.8	4.9
Germany	5.3	4.3	1.9	4.6	3.9	3.0
Netherlands	4.4	5.2	2.3	5.6	5.6	4.0

Source: Nicoletti and Scarpetta (2003).

conducted by the McKinsey Global Institute (1997, 2002). These studies assessed the levels of productivity in specific sectors in the United States, France and Germany and looked for the factors behind the level and the evolution of productivity.⁶ I shall take three sectors as examples: road freight, automotive manufacturing and retail trade.

Road freight was traditionally a highly protected and regulated sector in Europe. The internal market, the elimination of restrictions on foreign carriers and other reforms have led to a nearly deregulated market. The OECD indexes suggest that the levels of regulation in France and Germany are similar today to those in the United States (Boylaud, 2000). The McKinsey Global Institute (2002) study concludes that labor productivity in France and Germany, which stood at roughly 60 percent of the U.S. level in 1992, had increased to about 85 percent in 2000. It shows how changes in regulation have allowed for larger truck sizes and higher load rates, leading to higher productivity in both European countries. The study attributes half of the remaining productivity gap to geography, which allows for longer hauls and faster speeds in the United States; it attributes the other half to the more recent shift to information technology in Europe, itself due to more recent deregulation.

Automotive manufacturing has also been transformed. The McKinsey Global Institute (2002) concludes that in the 1990s, France made up much of its productivity gap vis-à-vis the United States, with productivity growing at 7.8 percent in France from 1992 to 2000, compared with 2.2 percent in the United States and Germany. It concludes that this high productivity growth was triggered by two main factors: first, the partial privatization of Renault and the associated change in governance; and, second, the lifting of quotas on Japanese car imports to France—a lifting that led first to financial deficits and a crisis at Renault and then to a successful reorganization.

In view of the evidence presented in the previous section, understanding what

⁶ Bailey and Solow (2001) describe the methodology underlying McKinsey sectoral studies in this journal.

has happened to the retail trade sector is clearly crucial to the interpretation of the productivity evolutions since the mid-1990s. Food retail trade is one of the sectors studied by the McKinsey Global Institute (2002). The study reaches two main conclusions. The first is that regulation, primarily zoning regulation, has had a strong effect on the size composition of the sector. In France, two laws, the “*Loi Royer*” and the “*Loi Raffarin*” (named after its sponsor, then the minister of commerce, now the current prime minister), give local incumbents a large say in whether to allow the opening of new stores. The result has been a hollowing of the size distribution, with more small-size retailers, fewer medium-size retailers and more large-size retailers—hypermarkets, which have avoided zoning regulations by opening stores further away from the center of cities. The second conclusion is that, perhaps surprisingly, measured productivity is higher in France than in the United States. Even after adjusting for the fact that the minimum wage in France eliminates low-productivity workers such as baggers, French productivity appears comparable to U.S. productivity in the sector.⁷ Direct evidence on large-size retailers also shows them to have introduced information technology nearly as extensively as their U.S. counterparts.

The study does not directly take up the question of why productivity growth evolutions have been so different in Europe and the United States in the second half of the 1990s. Combining some of the hints the study gives with other evidence, let me venture a hypothesis. Looking at the United States, Foster, Haltiwanger and Krizan (2002) find that most of the productivity growth in U.S. retail trade can be attributed to the replacement of less productive establishments by more productive ones. A similar study does not exist for France,⁸ but there is clear evidence that zoning regulation has led to lower turnover in France than in the United States. This suggests that zoning regulation, and the implied lower turnover, may be the main factors behind the lower productivity growth in France. The most efficient firms are as efficient as their U.S. counterparts. But the most efficient French retail firms have not been able to increase their share of the market as much as their U.S. counterparts.

If this hypothesis is correct, what does it portend for the future? Zoning regulations are likely to stay. They reflect partly the interests of incumbents and partly collective preferences about the nature of cities, and they do not fall under the purview of Brussels. The protection of a less information technology intensive, small-size retail sector may in turn lead to a lower productivity level than in the United States in the retail trade sector. But this surely does not imply sustained differences in overall productivity growth between Europe and the United States. For most sectors, the reform process is likely to continue. Even for retail trade, the slower relative productivity growth observed since the mid-1990s is more likely to be

⁷ Retail trade is a sector where measurement issues, both for the volume and the price of retail services, are such that numbers must be interpreted with care. See the discussion in Baily and Solow (2001).

⁸ Bertrand and Kramarz (2002) look at the related question of the effect of regulation on job creation; but they do not look at the effect on productivity.

a one-time adjustment, rather than to reflect permanently lower relative productivity growth in the sector.

The McKinsey Global Institute studies cover a number of other sectors, from mobile telephone to electricity generation and distribution to retail banking. In most of these sectors, deregulation (or appropriate regulation, as in the case of telecommunications) appears to have had important effects on the behavior of firms, the degree of competition and the level of productivity. This leaves us with one last puzzle. Why hasn't this transformation, so apparent at the industry level, led to higher European productivity growth in the late 1990s? Let me develop another tentative hypothesis. Throughout the 1990s, faced with high unemployment and low employment growth, many European governments endorsed the idea of "job rich growth." The idea, a direct descendant of the lump-of-labor fallacy, was based on the idea that output growth was given, and so low productivity growth would allow for more employment growth.⁹ More generally, firms have been under considerable pressure to maintain employment and avoid layoffs and plant closings. Informal evidence from interviews of firms' managers suggest that they believe that, absent political constraints, they could and would reduce employment further than they have so far.¹⁰ If the hypothesis is partly correct, it suggests that if and when European output growth increases, so will implementation of productivity enhancing innovations and so will productivity growth.

Implications for Labor Markets

Jacques Delors, the author of the white paper published by the European Commission in 1985 that charted the course for a single European market, wanted that report to include a "Social Chapter," a set of rules for the labor market. He did not succeed. Instead, reforms in the product and financial markets have to a large extent shaped labor market changes and labor market reforms since then.

Deregulation in Goods and Financial Markets, Wages and Unemployment

Higher goods market competition increases average real wages and is likely to decrease unemployment. Let me briefly go through the argument, following Blanchard and Giavazzi (2003), as it lays the ground for the discussion that follows.¹¹

⁹ A "success story" here is Spain, where a combination of moderate output growth and dismal productivity growth has allowed for a substantial reduction of unemployment.

¹⁰ This hypothesis is not easy to test, although one testable prediction is that, *ceteris paribus*, sectors that had higher demand for exogenous reasons also have had higher productivity growth. I have not explored it yet.

¹¹ Blanchard and Giavazzi (2003) study the effect of different dimensions of product market deregulation in a model with monopolistic competition in the goods market and different forms of collective bargaining in the labor market. An extension to include capital accumulation is given by Spector (2004). An interesting alternative treatment, which assumes Cournot competition in the goods market and firm-level collective bargaining in a search labor market, is developed by Ebells and Haefke (2003).

Consider first the case where firms take the wage as given in setting prices; in these models, the wage is said to be “allocative.” In this case, an increase in competition will lead firms to choose a lower markup and, thus, will lead to a decrease in prices given wages. Put another way, higher competition will lead to a higher real wage at any given level of employment. Given any positively sloping wage-employment relation on the labor supply side, this will lead in turn to an increase in the real wage and an increase in employment.

Now consider instead the case where the wage is distributive, a case known as “efficient bargaining” in the labor literature. In this case, firms choose prices, output and employment, based not on the wage but on the reservation wage of workers. The wage is then chosen so as to distribute the total rents between the firm and its workers, according to their relative bargaining power. The higher the bargaining power of workers, the more of the rents they appropriate.¹² Think now of an increase in competition, which eliminates monopoly power, and thus eliminates all monopoly rents (the argument also holds for a partial reduction of monopoly power, but is easier to state this way). There are then two effects at work. First, the increase in competition leads to lower prices, eliminating monopoly rents. As part of these rents were accruing to the workers, this effect makes workers worse off. Second, to the extent that the increase in competition affects all firms in the economy, then all prices are now lower, and the rents that were previously going to firms and workers now go to consumers in the form of lower prices. Thus, as workers, workers lose; but as consumers, they gain. And because as consumers they now get all the rents, whereas before, as workers, they were only getting a fraction of them, their real wage is higher, and they are better off.

If product market deregulation, and by implication, higher competition, increases real wages and decreases unemployment, why do workers so often oppose it? The argument above suggests the answer. If the degree of monopoly power is the same to start with, and is uniformly reduced, then all workers are indeed better off. But, even in this case, the cost to the workers (the lost portion of rents) is a direct effect, while the benefit (the decrease in prices) is a general equilibrium effect, which may be much less salient.¹³ Moreover, the degree of monopoly power is not the same across sectors, nor is deregulation uniform across the board. With differing levels of monopoly and deregulation, it is still true that the average real wage increases, but some workers lose while others gain. As in the case of international trade liberalization, those who lose know they are losing, while the gains are more diffuse. Thus, even if the average worker is better off, product market deregulation is likely to generate social tensions and strikes. For economic reforms

¹² The question of how much of the rents workers appropriate is an old question in labor economics. A study of the relation between wage differentials and the indexes of regulation described earlier across European countries and sectors by Nicoletti et al. (2001) finds a significant effect on wages in manufacturing, a less significant effect outside of manufacturing. The authors hypothesize that some of the rents are taken in other forms than wages, lower productivity or restrictions on employment.

¹³ This argument is close to that developed in Gersbach (2003).

driven by Brussels, these tensions may lead to disruptions, but are unlikely to stop the reform process. For sectors where deregulation is not driven by Brussels, the outcome is however more in doubt. The main example here is the slow progress of reform in the public sector.¹⁴

I have so far focused on product market deregulation. The effects of financial market deregulation are slightly different. One can think of financial market deregulation as increasing the elasticity of capital to the rate of return—be it to a firm, to a sector or to a country. In this case, deregulation may then require a decrease in the real wage. Think for example of privatization. It is often reasonable to think of capital in state-owned firms as being inelastic: Even if the firm is making losses, the state may continue to invest. If the firm is privatized, capital will now require the market rate of return, which in turn may require a decrease in the real wage. The same may hold for a country as a whole. Limits on international capital mobility may allow labor to extract a higher real wage, and thus a lower return to capital, without triggering capital flight. In this case, higher financial integration will require a decrease in the real wage. If unions do not realize the change in the environment, and do not change their behavior, then the effect may be lower capital accumulation and lower employment for some time.

How much of the evolution of wages and unemployment over the recent past can be explained by deregulation in goods and labor markets is one of my current topics of research (for example, Blanchard and Philippon, 2003). The tentative answer is that deregulation may account for some of the earlier rise and the more recent fall in unemployment in Europe. However, the purpose of this discussion was to think about the implications for the behavior of unions and the reform of labor institutions. I now turn to those.

Deregulation and Unions

Deregulation implies smaller rents. Smaller rents imply smaller benefits for workers from joining a union. This in turn is likely to lead to a decrease in union membership and a decrease in the power of unions. These implications are indeed consistent with the facts. Union membership has generally declined in Europe, falling, for example, from 22 percent in 1980 to 10 percent in 1998 in France and from 36 percent in 1990 to 26 percent in 1998 in Germany (Boeri, Brugiavini and Calmfors, 2001). This decline in membership is only partly due to the decline in rents. Other factors, such as the decline in manufacturing and the increase in part-time work, have all played a role. But econometric evidence suggests that they explain only part of the decline: A decline in rents is a plausible candidate for the residual.

Interestingly, there has been no decline in membership in Scandinavian countries. Union membership has increased from 78 percent in 1980 to 88 percent in 1998 in Sweden, from 69 percent to 79 percent in Denmark, two countries where

¹⁴ An insightful analysis of the problems of reform of the French public sector is given in a report by the Institut Montaigne (2003).

unions have traditionally been less confrontational than in the rest of Europe. This leads to the next point.

To caricature slightly, the rhetoric of European unions traditionally comes in one of two forms. Some unions speak of the need for a “partnership between labor and capital.” While fighting for labor, they nevertheless insist on the need to maintain an adequate rate of return for capital, lest capital move away and employment suffer. Perhaps the best-known early statement along these lines is not by a union leader, but by Helmut Schmidt, then the Social Democratic Chancellor of Germany, in 1976: “The profits of enterprises today are the investments of tomorrow, and the investments of tomorrow are the jobs of the day after.” Some unions have instead a view much closer to the old “class struggle” view of relations between capital and labor. They speak as if the fight over the distribution of income between wages and profits were a fight for rents, with few implications for employment.

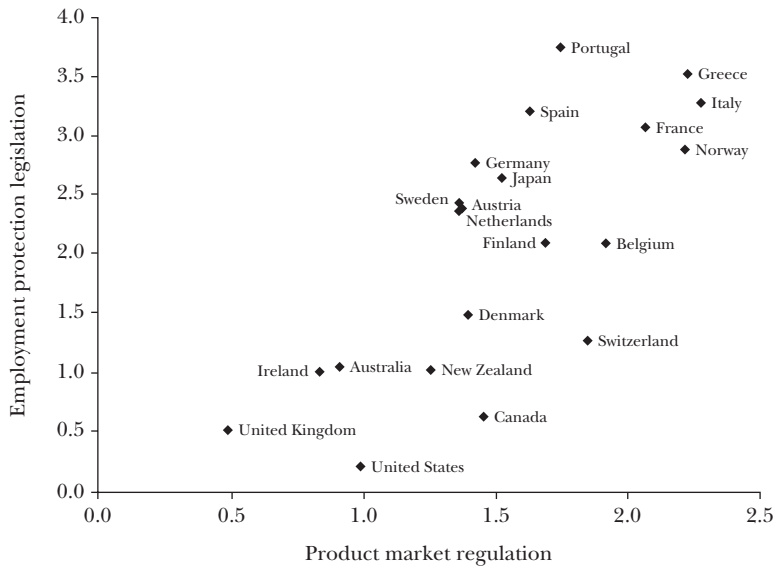
In a world of high rents and low capital mobility, the second view had some justification. But the decline of rents and the increase in the elasticity of the demand for labor make it a dangerous strategy today. In Blanchard and Philippon (2003), we argue that, while it took some time, many unions have indeed shifted their rhetoric and their attitudes—although at different speeds across countries. An anecdote nicely captures the shift of British unions: In November 2003, Denis MacShane, Britain’s minister for Europe and a former senior trade union official, admonished German unions for their opposition to Chancellor Gerard Schröder’s reform program, “Agenda 2010,” telling them that there were “out of touch with modernity” (Williamson, 2003). In France, one of the two main unions, the CFDT (*Confederation Francaise democratique du travail*) has also shifted to a partnership stance. However, the other main union, the CGT (*Confederation generale du travail*), has not changed its rhetoric very much. One interpretation is that it has decided to focus on the public sector (the membership of the CGT is now primarily in the public sector), where rent extraction remains easier than in the private sector.

Reforms of Labor Market Institutions

There are two broad approaches to thinking about the shape of labor market institutions. The first approach is that these institutions are yet another way of affecting the distribution of rents between firms and workers (or between different groups of workers, or between workers and nonworkers) (Saint-Paul, 2000; Bertola and Boeri, 2003). Figure 1, reproduced from Nicoletti, Scarpetta and Boylaud (2000), makes this point very nicely. It plots an index of employment protection as constructed by the OECD (1999) versus an index of product market regulation, also constructed by the OECD based on the large regulatory data set described in the previous section, across most OECD countries in the late 1990s. It shows the strong positive correlation between product market regulation and employment protection. The second approach is that these institutions are put in place to solve a number of market imperfections—for example, the failure of markets to provide adequate unemployment insurance.

The first approach, on its own, is too cynical. The second, on its own again, is

Figure 1

Product Market Regulation and Employment Protection Legislation

Source: Nicoletti, Scarpetta and Boyland (2000).

too naive, and both sets of factors surely play a role. A combination of these views gives us a way of thinking about the effects of goods and financial markets deregulation on labor market institutions.

Think first in terms of rent distribution. If labor market institutions are thought of as distorting instruments to extract rents, and deregulation reduces the size of rents, then these labor market institutions become less attractive (the argument parallels the argument for why union membership is likely to decrease). A particularly egregious example of rent extraction in this context is the unemployment insurance system put in place for people involved in the performing arts in France (in French, *intermittents du spectacle*). Until 2003, this unusually generous unemployment insurance guaranteed up to twelve months of unemployment for anybody who had worked the equivalent of three months in the previous year. Not surprisingly, this system ran a large deficit. This program could be seen as reflecting the often stated commitment of the French government to help and subsidize culture, except for the fact that the cost was actually paid by firms, through the financing of the deficit of this fund by the general insurance fund, itself financed by payroll taxes. Probably because of numerous abuses of the system, and probably also because of the decrease in rents, firms proposed in 2003 a reform of the system aimed not at eliminating it, but at mildly tightening it through an increase in the number of months needed to qualify, from three to four months, and a shorter base period over which to compute the number of hours worked, eleven months rather than twelve months as before. The result was a long strike in

early summer 2003, leading to the cancellation of most festivals in France. The reform passed nevertheless, but the episode is a good example of both the pressure on some institutions and of likely tensions in the process of reform.

Think next in terms of social insurance. Labor market institutions involve a tradeoff between insurance and efficiency: The higher the level of insurance they offer, the higher the distortions they impose on the economy. Financial and product market deregulation are likely to increase the cost of these distortions. For example, high employment protection may not represent much of a cost to firms so long as the firms are shielded from competition. This cost is likely to go up substantially when the firms find themselves exposed to intense competition.

Faced with these evolutions, governments can respond in two ways. They can try to make labor market institutions more efficient and reduce the distortion costs associated with a given level of social insurance. They can decrease the amount of social insurance they provide. The evidence is that most European governments are responding by trying to reduce distortions rather than by decreasing the level of social insurance. In other words, Europe seems to be evolving toward a more efficient European model rather than toward the U.S. model. Let me consider different institutions in turn.

Since the mid-1980s, many of the most obvious flaws of Europe's unemployment insurance systems have been corrected. In particular, the highest replacement rates, which often made employment unattractive for low-wage workers, have been reduced (Blanchard and Wolfers, 2000). Also, unemployment insurance systems have increasingly moved toward more active re-employment policies, in which unemployment benefits are sometimes more generous than before, but are terminated if the unemployed refuse "reasonable job offers." For example, this approach is incorporated in the "Agenda 2010" proposals introduced by Chancellor Schröder in 2003. Defining "reasonable job offers" and providing unemployment agencies with the incentives to implement such policies has proven difficult, but change is visible. There is also some evidence of convergence across countries. Italy, which had a very low level of state-provided insurance, has increased the level over time while the others have reduced theirs.

Changes in employment protection have been more limited and more ambiguous in their effects.¹⁵ To give more flexibility to firms while, for obvious political reasons, keeping the existing level of protection for those workers already protected, governments in many European countries have extended the conditions under which firms can offer temporary contracts to workers. These reforms have partly achieved the desired goals. They have also led to an increasingly dual labor market structure, with one set of workers covered by traditional employment

¹⁵ For an interesting theoretical analysis of the effects of trade liberalization on the political economy of employment protection, see Brügemann (2003).

protection and another employed under temporary contracts.¹⁶ The political challenge is now how to reduce this unhealthy duality.

Finally, many countries have moved away from a focus on the minimum wage to a focus on a negative income tax as the best instrument to achieve higher income for low-skill workers. The French “*prime a l’emploi*,” the Dutch “labour tax credit,” the Belgian “work tax credit,” all recently introduced, resemble in many ways the U.S. earned income tax credit.

In all these cases, reforms have come with tensions, strikes and political costs. The general strike triggered, in 2002, by the attempt by the Berlusconi government to introduce minor modifications to “Article 18,” the article regulating layoffs in Italy, and the subsequent failure of that attempt, is a good example. Reforms have often taken the form of one or two steps forward and one step back. An interesting statistic can be constructed here based on the information provided by the Fondazione Rodolfo deBenedetti (FRDB, 2004), which monitors labor market reforms in a number of European countries. After giving a short description of each reform, it categorizes them as minor or major and as increasing or decreasing employment flexibility. While the categorization is inevitably arbitrary, the evidence, such as it is, is interesting. Take employment protection for example: Germany shows, since 1993, seven minor reforms increasing flexibility, five minor reforms decreasing it, one major reform increasing flexibility and one major reform decreasing it. For the group of covered countries as a whole, the number of reforms increasing flexibility exceeds the number decreasing flexibility, but not by much. The reform process is not a smooth one. But the evidence does suggest that reforms are taking place and in the right direction (Nickell, 2003b).

Can European countries maintain their current level of social protection, but do it in a way that allows them to return to low unemployment? The question vastly exceeds the bounds of this article. But I read the evidence from a number of countries that have returned to low unemployment, from the Netherlands to Sweden, as suggesting that the answer is positive. A reasonable guess is that Europe will not converge to the U.S. model, but to a European model, delivering more generous social insurance than in the United States, but doing so more efficiently than it does today.

Some Conclusions

I have argued that Europe’s economy has done better than is often perceived; that things are nevertheless far from perfect, and Europe suffers from inefficient regulation; that there is a reform process at work, driven by deregulation in financial and product markets; that this forces reforms in the labor market,

¹⁶ See, for example, the conclusions of the June 2002 symposium in the *Economic Journal*. See also Saint-Paul (1993) for a theoretical analysis of the political economy of two-tier systems.

although not without tensions; and that Europe may be converging to a more efficient European model rather than to the U.S. model.

Are there reasons to worry? There always are. The tensions coming from the pressure on labor market institutions may lead to political instability and policy reversals. As the rents of firms decrease, attempts by workers to extract them instead from the state may lead to fiscal deficits and a fiscal crisis. There are other challenges as well. I shall mention four, realizing that each one would deserve a much longer treatment.

The first challenge is the current business cycle slump affecting Europe: Even if the medium-run path looks good, the European economy has to return to that path. The second challenge is the state of the public sector. As I have argued, pressure for reform is much weaker there, and the public sector remains inefficient. The third challenge is that the quality of higher education is mediocre in many European countries. Even if it is difficult to pinpoint the effect of higher education on growth, it is clearly likely to be a handicap for Europe in the future. The fourth challenge is the aging of Europe's population. The old-age dependency ratio is already higher and will increase more in Europe than in the United States. This change certainly requires a substantial increase in the retirement age, but this increase may be more difficult to achieve in Europe than in the United States.

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References

- Baily, Martin.** 2004. "A Transformation of the European Economy." Manuscript, March.
- Baily, Martin and Robert Solow.** 2001. "International Productivity Comparisons Built From the Firm Level." *Journal of Economic Perspectives*. Summer, 15:3, pp. 151–72.
- Baverez, Nicolas.** 2003. *La France qui Tombe: Un Constat Clinique du Déclin Français*. Paris: Perrin.
- Bertola, Giuseppe and Tito Boeri.** 2003. "Product Market Integration, Institutions, and the Labour Markets." Mimeo, Bocconi University, September.
- Bertrand, Marianne and Francis Kramarz.** 2002. "Does Entry Regulation Hinder Job Creation? Evidence from the French Retail Industry." *Quarterly Journal of Economics*. November, 117:4, pp. 1369–414.
- Blanchard, Olivier and Francesco Giavazzi.** 2003. "Macroeconomic Effects of Regulation and Deregulation in Goods and Labor Markets." *Quarterly Journal of Economics*. August, 118:3, pp. 879–909.
- Blanchard, Olivier and Thomas Philippon.** 2003. "The Decline of Rents, and the Rise and Fall of European Unemployment." Mimeo, MIT, September.
- Blanchard, Olivier and Justin Wolfers.** 2000. "Shocks and Institutions and the Rise of European Unemployment: The Aggregate Evidence." *Economic Journal*. March, 110:1, pp. 1–33.
- Boeri, Tito, Agar Brugiavini and Lars Calmfors.** 2001. *The Role of Unions in the Twenty-First Century*. Oxford: Oxford University Press.
- Boylaud, Olivier.** 2000. "Regulatory Reform in Road Freight and Retail Distribution." OECD Working Paper No. 28, August.
- Brügemann, Björn.** 2003. "Trade Integration and the Political Support for Labor Market Rigidity." Mimeo, MIT, December.
- Colecchia, A. and Paul Schreyer.** 2002. "ICT Investment and Economic Growth in the 1990s: Is the United States a Unique Case? A Comparative Study of Nine OECD Countries." *Review of Economic Dynamics*. April, 5:2, pp. 408–42.
- Commission of the European Communities.** 1985. "Completing the Internal Market." Technical report, Bruxelles.
- Danthine, Jean Pierre, Francesco Giavazzi and E. L. von Thadden.** 2000. "European Financial Markets after EMU. A First Assessment." NBER Working Paper No. 8044, December.
- de la Dehesa, G.** 2004. "Quo Vadis Europe? The Persistent Economic Underperformance of the European Union Relative to the United States." Mimeo, Madrid.
- Daveri, Francesco.** 2003. "Europe's Productivity Slowdown Stems from Manufacturing, not from IT." Working paper, Università di Parma and IGIER.
- Duhamel, Alain.** 2003. *Le Desarroi Français*. Paris: Plon.
- Ebell, Monique and Christian Haefke.** 2003. "Product Market Deregulation and Labor Market Outcomes." Mimeo, Pompeu Fabra, October.
- European Commission.** 2000. "Competition Policy in Europe and the Citizen." Technical Report, Bruxelles.
- European Commission.** 2002. "Economic Reform: Report on the Functioning of Community Product and Capital Markets." Technical report, Bruxelles, December.
- European Commission.** 2004. "Financial Integration Monitor." Bruxelles.
- Faini, Riccardo.** 2004. "Europe: A Continent in Decline?" Mimeo, Università di Roma Tor Vergata, March.
- Fondazione Rodolfo DeBenedetti (FRDB).** 2004. "Social Reforms Database." Available at (www.frdb.org.)
- Foster, Lucia, John Haltiwanger and C. J. Krizan.** 2002. "The Link Between Aggregate and Micro Productivity Growth: Evidence from Retail Trade." NBER Working Paper No. 9120, August.
- Gersbach, Hans.** 2003. "Structural Reforms and the Macroeconomy: The Role of General Equilibrium Effects." Invited Lecture, IEA meetings, Lisbon, September.
- Institut Montaigne.** 2003. "Comment Reformer?" Paris, September.
- Journard, Isabelle.** 2001. "Tax Systems in European Union Countries." OECD Working Paper No. 301, June.
- McKinsey Global Institute.** 1997. "France and Germany."
- McKinsey Global Institute.** 2001. "U.S. Productivity Growth, 1995–2000." October.
- McKinsey Global Institute.** 2002. "Reaching High Productivity Growth in France and Germany." October.
- Nickell, Stephen.** 2003a. "Employment and Taxes." Paper prepared for the CESifo conference on Tax Policy and Employment, July.
- Nickell, Stephen.** 2003b. "Labour Market Institutions and Unemployment in OECD Countries." *CESIFO DICE Report 1*. 2, pp. 13–26.

Nicoletti, Giuseppe and Stefano Scarpetta. 2003. "Regulation, Productivity, and Growth." World Bank, Policy Research Working Paper No. 2944, January.

Nicoletti, Giuseppe, Stefano Scarpetta and Olivier Boylaud. 2000. "Summary Indicators of Product Market Regulation with an Extension to Employment Protection Legislation." Economics Department Working Paper No. 226, April.

Nicoletti, Giuseppe, Andrea Bassanini, Ekkehard Ernst, Sebastien Jean, Paulo Santiago and Paul Swaim. 2001. Product and Labour Markets Interactions in OECD Countries." Economics Department Working Paper No. 312, December.

OECD. 1999. *Employment Outlook*. Paris: OECD.

Prescott, Edward. 2003. "Why Do Americans Work So Much More Than Europeans?" Federal Reserve Bank of Minneapolis Research Department Staff Report No. 321, November.

Saint-Paul, Gilles. 1993. "On the Political Economy of Labor Market Flexibility." *NBER Macroeconomics Annual*. 8, pp. 151–96.

Saint-Paul, Gilles. 2000. *The Political Economy of*

Labor Market Reforms. Oxford: Oxford University Press.

Sapir, André et al. 2004. *An Agenda for a Growing Europe: The Sapir Report*. Oxford: Oxford University Press.

Spector, David. 2004. "Competition and the Capital-Labor Conflict." *European Economic Review*. 48:1, pp. 25–38.

Turner, Adair. 2003. "What's Wrong with Europe's Economy?" Lecture at the London School of Economics, February.

van Ark, Bart, Robert Inklaar and Robert McGuckin. 2002. "Changing Gear: Productivity, ICT Investment and Service Industries: Europe and the United States." Groningen Growth and Development Centre, Research Memorandum GD-60, December.

van Ark, Bart, Johanna Melka, Nanno Mulder, Marcel Timmer and Gerard Ypma. 2002. "ICT Investment and Growth Accounts for the European Union, 1980–2000." Report to the European Commission, September.

Williamson, Hugh. 2003. "German Trade Unions 'Out of Touch with Modernity.'" *Financial Times*. November 19.